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MATTERS ARISING

Mycoplasma genitalium: a cause of non-gonococcal urethritis?

In a recent issue of this journal¹ Horner and Taylor-Robinson expressed concern about the criteria applied for selection of the control group in a study on the prevalence of *Mycoplasma genitalium* reported by us.² We found a significant association between the presence of *M. genitalium* and symptoms and signs of non-gonococcal urethritis (NGU), whereas no association was found between *Ureaplasma urealyticum* and NGU.

M. genitalium is an extremely slow-growing and fastidious microorganism isolated more than 10 years ago.³ Although considerable time and efforts have been spent to gain more knowledge of its significance, reliable studies had to await the development of sensitive non-culture methods such as the polymerase chain reaction (PCR).⁴

The main objection expressed by Horner and Taylor-Robinson concerns the selection of the control group. At enrolment all of our patients were examined clinically and only patients without any discharge and without complaints of urethritis were included in the control group. In Danish STD clinics it is common practice to do microscopy of urethral smears only if the patients have complaints of urethritis; however, all patients have swabs taken for culture of *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. Thus, we selected the control group among patients who would not have had an urethral specimen taken had they not visited an STD clinic. In our opinion the two groups studied represent closely the everyday clinical situation.

Having said that, we admit that the authors raise an important question. "Asymptomatic patients" in the control group would consequently be patients without complaints and with no discharge but with ≥ 5 polymorphonuclear leucocytes/high-power microscopic field. We do not feel that these patients should be included in the study group, but it might be reasonable to consider them as a separate group. We cannot exclude the possibility that exclusion of "asymptomatic NGU" patients from the control group might have changed the pattern of possible pathogens found in that group. If some or even all of the *M. genitalium* positive patients in the control group had "asymptomatic NGU" as implied by Horner and Taylor-Robinson,¹ the association would have been strengthened. Obviously, excluding patients with "microscopic urethritis" from the control group might have decreased the percentage of ureaplasma positive patients in this group, but we find it hard to believe that the conclusions regarding the association of *U. urealyticum* with NGU would have changed; after all we found 33% ureaplasma positives in the NGU group as compared with 47% in the control group.

What we believe to be more important for estimates of the true prevalence of *M. genitalium* is the fact that all previously published studies based on PCR have used

primers selected from the main adhesin gene MgPa. From results recently obtained by amplification of overlapping fragments of the MgPa gene from four new urethral isolates obtained by culture of specimens from patients enrolled in the above mentioned study we found that this gene shows considerable genetic variation. Out of 10 different primer-combinations, only five correctly detected vast amounts of *M. genitalium* DNA from all four Danish strains. Therefore, the prevalence of *M. genitalium* found in previous studies might represent only the minimum figure, since strains with MgPa gene sequences different from the type-strain would not be detected.

This risk of a low detection rate is even more pronounced when nested PCR is applied as was the case in the study published by Horner *et al.*⁵

It is obvious that we do not know enough to establish a role of *M. genitalium* as a urogenital pathogen. Criticism could be raised against the selection of patients enrolled in our study² and possible technical insufficiencies in the study by Horner *et al.*⁵ It is encouraging, though, that the two studies obtain similar results, namely that *M. genitalium* DNA could be detected in urethral specimens from 27% versus 23% of patients with NGU and in 9% versus 6% of the control patients in our study² and the study by Horner *et al.*⁵ respectively.

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- 1 Horner PJ, Taylor-Robinson D. Mycoplasmas and non-gonococcal urethritis. *Genitourin Med* 1994;70:73-4.
- 2 Jensen JS, Ørsum R, Dohn B, Uldum S, Worm AM, Lind K. *Mycoplasma genitalium*: a cause of male urethritis? *Genitourin Med* 1993;69:265-9.
- 3 Tully JG, Taylor-Robinson D, Cole RM, Rose DL. A newly discovered mycoplasma in the human urogenital tract. *Lancet* 1981;i: 1288-91.
- 4 Jensen JS, Uldum SA, Søndergård-Andersen J, Vuust J, Lind K. Polymerase chain reaction for detection of *Mycoplasma genitalium* in clinical samples. *J Clin Microbiol* 1991;29: 46-50.
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Infectious osteitis pubis in an HIV seropositive female

Desmond and colleagues¹ report a case of infectious osteitis pubis arising in a HIV seropositive woman following a termination of pregnancy. They have no firm details of the surgical procedure but reasonably assume that it was a vacuum termination and know that it was performed under local anaesthesia. They comment that uterine perforation is more common where the uterus is retroverted (as was the case in their patient) and suggest that the termination "may have been complicated by an anterior wall perforation resulting in contiguous infection of the pubic symphysis. . .".

As a practising gynaecologist I would confirm that perforation in these circumstances is a rare but recognised complication. It is unlikely to have occurred unrecognised in a patient under local anaesthesia and—of more relevance—an anterior

perforation of the uterus implies entry into the bladder or more commonly the peritoneal cavity and not the symphysis which would lie inferiorly to any potential site of perforation. If the association between termination of pregnancy and pubic osteitis in their patient is anything more than coincidence, it is most likely to be due to haematogenous spread of infection, rather than from direct surgical trauma.

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- 1 Desmond N, Bignardi GE, Coker RJ, Grech P, Harris JRW. Infectious osteitis pubis in an HIV seropositive female. *Genitourin Med* 1994;70:127-9.

NOTICES

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CURRENT PUBLICATIONS

Selected titles from recent reports published worldwide are arranged in the following sections:

Gonorrhoea
Chlamydia
Pelvic inflammatory disease
Candidiasis
Trichomoniasis
Syphilis and other treponematoses
Hepatitis
Herpes
Human papillomavirus infection
Cervical cytology and colposcopy
Other sexually transmitted diseases
Public health and social aspects
Microbiology and Immunology
Dermatology
Miscellaneous

Gonorrhoea

Susceptibility of *Neisseria gonorrhoeae* associated with pelvic inflammatory disease to cefoxitin, ceftriaxone, clindamycin, gentamicin, doxycycline, azithromycin and other antimicrobial agents.
RJ RICE, JS KNAPP. *Antimicrob Agents Chemother* 1994;38:1688.

Identification of *Neisseria gonorrhoeae* in synovial fluid using the polymerase chain reaction.
MR LIEBLING, DG ARKFIELD, GA MICHELINI, MJ NISHIO, BJ END, T JIN, JS LOUIE. *Arthritis Rheum* 1994;37:702.

Use of the polymerase chain reaction to study arthritis due to *Neisseria gonorrhoeae*.
B MURALIDHAR, PM RUMORE, CR STEINMAN. *Arthritis Rheum* 1994;37:710.

Comparison of a test with agar dilution for antimicrobial susceptibility testing of *Neisseria gonorrhoeae*.
E VANDYCK, H SMET, P PIOT. *J Clin Microbiol* 1994;32:1586.

Evaluation of interpretive criteria of agar dilution and disk diffusion susceptibility tests for *Neisseria gonorrhoeae*.
SS ALTAIE, LS MORRE, D DRYJA, K FURNESS. *Diag Microbiol Infect Dis* 1994;18:175.

The distribution of variants of the Tet M determinant in tetracycline-resistant *Neisseria gonorrhoeae*.
DM GASCOYNEBINZI, PM HAWKEY, J HERITAGE. *J Antimicrob Chemother* 1994;33:1011.

Naturally occurring PIA/PIB hybrids of *Neisseria gonorrhoeae*.
MJ GILL, J JAYAMOHAN, MPA LESSING, CA ISON. *FEMS Microbiol Lett* 1994;119:161.

Tn916-generated, lipooligosaccharide mutants of *Neisseria meningitidis* and *Neisseria gonorrhoeae*.
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Chlamydia

***Chlamydia trachomatis* and HIV infection.**
A SCHATTNER, N HANUKA, B SAROV, Z BENTWICH. *Immunol Lett* 1994;40:27.

Asymptomatic genitourinary *Chlamydia trachomatis* infection in women seropositive for human immunodeficiency virus infection.
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Immunotypes of *Chlamydia trachomatis* isolated from genital tract specimens in Tahiti.
E CHUNGUE, J SOULIER, G PHILIPPON, SP WANG. *J Clin Microbiol Infect Dis* 1994;13:436.

Demonstration of delayed hypersensitivity in *Chlamydia trachomatis* salpingitis in monkeys: a pathogenic mechanism of tubal damage.
DL PATTON, YTC SWEENEY, CC KUO. *J Infect Dis* 1994;169:680.

Detection of *Chlamydia trachomatis* by direct fluorescent antibody staining: results of the College of American Pathologists proficiency testing program, 1986-1992.
GL WOODS, JA BRYAN. *Arch Pathol Lab Med* 1994;118:483.

Enzyme immunoassay with enhanced specificity for detection of antibodies to *Chlamydia trachomatis*.
JM OSSEWAARDE, A DEVRIES, JA CANDENHOEK, AM VANLOON. *J Clin Microbiol* 1994;32:1419.

Comparison of Gen-Probe PACE-2, AMPLICOR Roche and a conventional PCR for the detection of *Chlamydia trachomatis* in genital specimens.
M ALTWEGG, D BURGERM, U LAUPER, G SCHAR. *Med Microbiol Lett* 1994;3:181.

***Chlamydia trachomatis* species specific serology: ImmunoComb Chlamydia bivalent versus microimmunofluorescence (MIF).**
A CLAD, H FREIDANK, J PLUNNECKE, B JUNG, EE PETERSEN. *Infection* 1994;22:165.

Microtiter assay for colorimetric detection of in vitro amplified *Chlamydia trachomatis* sequences.
J LUNDEBERG, L BONDESSON, A HEDRUM, L GRILLNER, M STARK, G VONKROGH, M UHLEN. *Scand J Infect Dis* 1994;26:275.

Pelvic inflammatory disease

Randomized comparison of ampicillin-sulbactam to cefoxitin and doxycycline or clindamycin and gentamicin in the treatment of pelvic inflammatory disease or endometritis.
JA MCGREGOR, WR CROMBLEHOLME, E NEWTON, RL SWEET, R TUOMALA, RS GIBBS. *Obstet Gynecol* 1994;83:998.

Candidiasis

Vulvovaginal candidiasis in young women with cystic fibrosis.
SM SAWYER, G BOWES, PD PHELAN. *BMJ* 1994;308:1609.

Control of *Candida albicans* vaginitis in mice by short-duration butoconazole treatment in situ.
A VALENTIN, C BERNARD, M MALLIE, M HUERRE, JM BASTIDE. *Mycoses* 1994;36:379.

The electrostatic nature of the cell surface of *Candida albicans*—a role of adhesion.
L JONES, P OSHEA. *Experimental Mycology* 1994;18:111.

Partial characterization of a *Candida albicans* fimbrial adhesin.
L YU, KK LEE, K ENS, et al. *Infect Immun* 1994;62:2834.

Trichomoniasis

A double-blind placebo-controlled trial of single dose intravaginal versus single-dose oral metronidazole in the treatment of trichomonal vaginitis.
BH TIDWELL, WB LUSHBAUGH, MD LAUGHLIN, JD CLEARY, RW FINLEY. *J Infect Dis* 1994;170:242.

***Trichomonas vaginalis* with a double-stranded RNA virus has upregulated levels of phenotypically variable immunogen mRNA.**
A KHOSHNNAN, JF ALDERETE. *J Virol* 1994;68:4035.

Syphilis and other treponematoses

Antenatal screening for syphilis.
A NICOLL, C MOISLEY. *BMJ* 1994;308:1253.

Incidence of prenatal syphilis at the Boston City Hospital: a comparison across four decades.
PE KLASS, ER BROWN, SI PELTON. *Pediatrics* 1994;94:24.

Routine serologic screening for syphilis in hospitalized patients: high prevalence of unsuspected infection in the elderly.
AA BURTON, JA FLYNN, TM NEUMANN, C WILSON, TC QUINN, EW HOOK. *Sex Transm Dis* 1994;21:133.

Syphilis presenting as the "blue toe syndrome".
DG FEDERMAN, M VALDIVIA, RS KIRSNER. *Arch Intern Med* 1994;154:1029.

Osteitis of the skull in secondary syphilis.
KY CHUNG, J YOON, JH HEO, MG LEE, JW JANG, JB LEE. *J Am Acad Dermatol* 1994;30:793.

Historical and contemporary correlates of syphilis and cancer.
AM MICHALEK, MC MAHONEY, CC MCLAUGHLIN, D MURHY, BB METZGER. *Int J Epidemiol* 1994;23:381.

Hepatitis

Hepatitis C virus seroprevalence in clients of sexually transmitted disease clinics in North Carolina.
SA FISCUS, WF KELLY, DA BATTIGELLI, et al. *Sex Transm Dis* 1994;21:155.

Influence of smoking on immunological responses to hepatitis B vaccine.

AP WINTER, EAC FOLLETT, J MCINTYRE, J STEWART, IS SYMINGTON. *Vaccine* 1994;12:771.

Correlation between in vivo humoral and in vitro cellular immune responses following immunization with hepatitis B surface antigen (HBsAg) vaccines.

G LEROUXROELS, E VANHECKE, W MICHELSSEN, P VOET, P HAUSER, J PETRE. *Vaccine* 1994;12:812.

Herpes

Herpes simplex virus type 2 infection of heterosexual men attending a sexual health centre.

I BASSETT, B DONOVAN, NJ BODSWORTH, *et al.* *Med J Aust* 1994;160:697.

A rapid screen test for in vitro susceptibility of clinical herpes simplex virus isolates.

S SAFRIN, T ELBEIK, J MILLS. *J Infect Dis* 1994; 169:879.

Protein-specific cervical antibody responses to primary genital herpes simplex virus type 2 infections.

RL ASHLEY, L COREY, J DALESSIO, P WILSON, M REMINGTON, G BARNUM, P TRETHERWEY. *J Infect Dis* 1994;170:20.

Placebo-controlled trial of vaccination with recombinant glycoprotein D of herpes simplex virus type 2 for immunotherapy of genital herpes.

SE STRAUS, L COREY, RL BURKE, *et al.* *Lancet* 1994;343:1460.

Immunotherapy of acute and recurrent herpes simplex virus type 2 infection with an adjuvant-free form of recombinant glycoprotein D-interleukin-2 fusion protein.

M NAKAO, M HAZAMA, AA MAYUMIAONO, S HINUMA, Y FUJISAWA. *J Infect Dis* 1994;169: 787.

Passive immunization of the vagina protects mice against vaginal transmission of genital herpes infections.

KJ WHALLEY, L ZEITLIN, RA BARRATT, TE HOEN, RA CONE. *J Infect Dis* 1994;169:647.

Herpes virus latency. *Seminars in Virology* 1994;5:189-249 (whole issue).

Regulation of the herpes simplex virus latency-associated transcripts during establishment of latency in sensory neurons in vitro.

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Axonal transport of herpes simplex virions to epidermal cells: evidence for a specialized mode of virus transport and assembly.

MET PENFOLD, P ARMATI, AL CUNNINGHAM. *Proc Nat Acad Sci USA* 1994;91:6529.

A thymidine kinase deficient HSV-2 strain causes acute keratitis and establishes trigeminal ganglionic latency, but poorly reactivates in vivo.

WG STROOP, MC BANKS, H QAVI, J CHODOSH, SM BROWN. *J Med Virol* 1994;43:297.

Biological response of recombinant interleukin-7 on herpes simplex virus infection in guinea-pigs.

T BUI, CR FALTYNEK, RY HO. *Vaccine* 1994;12:646.

A vaccinia virus herpes simplex (HSV) glycoprotein B1 recombinant or an HSV vaccine overcome the HSV type 2 induced humoral immunosuppression and protect against vaginal challenge in BALB/c mice.

M FLECK, J PODLECH, K WEISE, D FALKE. *Med Microbiol Immunol* 1994;183:87.

Human papillomavirus infection

Diet and genital warts: a case-control study.

I BAIRATI, KJ SHERMAN, B MCKNIGHT, *et al.* *Sex Transm Dis* 1994;21:149.

Efficacy and safety of 0.5% podofilox solution in the treatment and suppression of anogenital warts.

W BONNEZ, RK ELSWICK, A BAILEYFARCHIONE, *et al.* *Am J Med* 1994;96:420.

Cancer associated human papillomaviruses: perinatal transmission and persistence.

F PAKARIAN, J KAYE, J CASON, *et al.* *Br J Obstet Gynaecol* 1994;101:514.

Histologic correlates of vulvar human papillomavirus infection in children and young adults.

CM MCLACHLIN, H KOZAKEWICH, M CRAIGHILL, B OCONNELL, CP CRUM. *Am J Surg Pathol* 1994;18:728.

Genital human papillomavirus infections in young women with vulvar and vestibular papillomatosis.

CC PAO, JJ HOR, YL FU. *Eur J Clin Microbiol Infect Dis* 1994;13:433.

Human papillomaviruses, p53 and cervical neoplasia.

S LANE, M WELLS. *J Pathol* 1994;172:299.

Carcinoma of the vulva: HPV and p53 mutations.

YY LEE, SP WILCZYNSKI, A CHUMAKOV, D CHIH, HP KOEFFLER. *Oncogene* 1994;9:1655.

Preservation of multiple oncogenic human papillomavirus types in recurrences of early-stage cervical cancers.

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The genotypes and prognostic significance of human papillomaviruses in cervical cancer.

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The prevalence of cervical infection with human papillomaviruses and cervical dysplasia in Alaska native women.

M DAVIDSON, PC SCHNITZER, LR BULKOW, *et al.* *J Infect Dis* 1994;169:792.

Risk factors for anal human papillomavirus infection and anal cytologic abnormalities in HIV-positive and HIV-negative homosexual men.

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Anal human papillomavirus infection and anal cancer in HIV-positive individuals—an emerging problem.

JM PALEFSKY. *AIDS* 1994;8:283.

Prevalence and physical state of human papillomavirus DNA in anal carcinomas.

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A comparison of human papillomavirus detection rates by dot blot assay from smear and biopsy specimens with regard to human papillomavirus type and histological diagnosis.

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Typing of human papillomaviruses in cervical carcinoma biopsies from Cape Town.

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Human papillomavirus type 18 E7 protein is a short-lived steroid-inducible phosphoprotein in HPV-transformed cell lines.

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Human papillomavirus DNA and anti-HPV secretory IgA antibodies in cytologically normal cervical specimens.

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Replication of human papillomaviruses in cell culture.

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Progressive squamous epithelial neoplasia in K14-human papillomavirus type 16 transgenic mice.

JM ARBEIT, K MUNGER, PM HOWLEY, D HANAHAN. *J Virol* 1994;68:4358.

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